PETER LOUGHEED/SPRAY VALLEY PROVINCIAL PARKS

DRAFT MANAGEMENT PLAN – July, 2003

Alberta

COMMUNITY DEVELOPMENT

PARKS AND PROTECTED AREAS

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1.0 INTRODUCTION

1.1 BACKGROUND

Peter Lougheed and Spray Valley provincial parks cover 189,622 acres (76,740 hectares) of provincial crown land in the Bow River watershed approximately 120 kilometres west of Calgary (see Map). Peter Lougheed Provincial Park was established in 1977 in conjunction with Kananaskis Country while Spray Valley Provincial Park was designated in December 2000. Together, these protected areas occupy a significant proportion of the total land area in the Upper Kananaskis, Smith-Dorrien and Spray Valleys and have high ecological, scenic and recreational values. Prior to the establishment of the Provincial Parks, the area saw hydroelectric dams and related facilities constructed by Calgary Power (now Trans Alta). Hydro operations are ongoing in both these parks. Timber harvesting also occurred before park establishment in portions of the Spray and Smith-Dorrien valleys. Public road access to both these parks was improved during the early 1980's as part of the Provincial Government's Capital Development of Kananaskis Country.

1.2 AREA DESCRIPTION

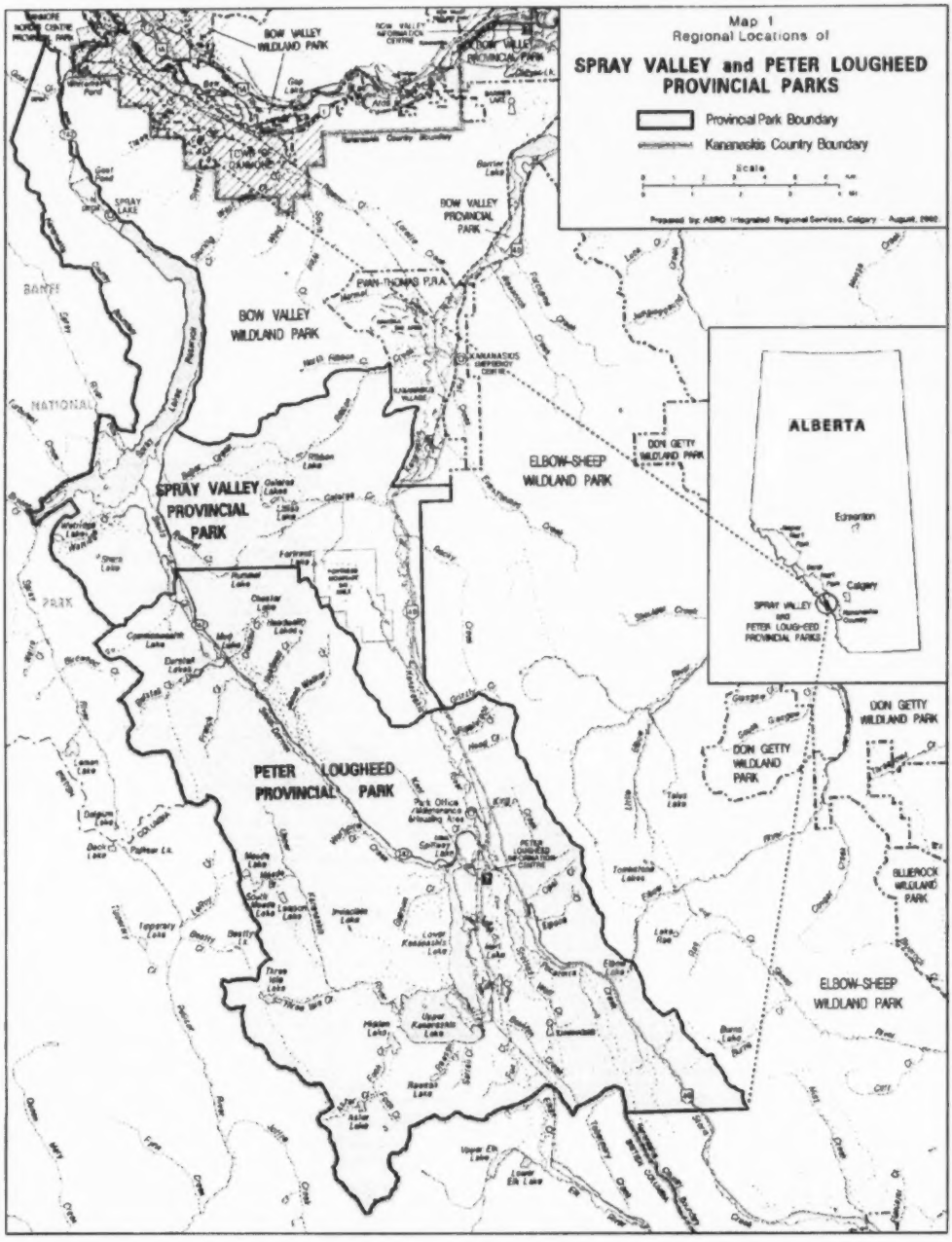
Peter Lougheed and Spray Valley Provincial Parks are located near the Great Divide in the Front Ranges of the Rocky Mountains. They are bordered on the west by British Columbia's Height of the Rockies Provincial Park and Banff National Park and on the north by the Bow Valley Wildland Provincial Park (see map 1). The Evan Thomas Provincial Recreation Area and Elbow Sheep Wildland Provincial Park lie to the east and north. The elevations vary from 1600 m (5000 ft) in the Kananaskis Valley bottom to over 3000 m (10,000 ft) at the peaks of many of the mountains. The diverse slopes and aspects along with prevailing winds, sunshine, and moisture create highly diverse vegetation regimes and faunal habitats, as well as high scenic qualities. These two Provincial Parks include alpine and subalpine subregions. Along with several important habitat areas for ungulates and carnivores, these parks also include important local and regional movement corridors for a variety of wildlife. Important scenic features of both parks include striking geological and glaciated landforms, a variety of alpine lakes and meadows and reservoir lakes created by dams on the Kananaskis and Spray rivers. The most popular recreation activities in both parks include camping, picnicking, trail recreation, boating and fishing.

1.3 PURPOSE AND SCOPE OF MANAGEMENT PLAN

This plan guides management of Peter Lougheed and Spray Valley Provincial Parks consistent with legislation and policies that are in effect. The plan conforms with the existing *Provincial Parks Act*, other related legislation and the 1999 Kananaskis Country Recreation Policy. Existing jurisdictional roles and boundaries will be respected. The plan will be reviewed from time to time to ensure that it remains consistent with legislation and policy.

This plan provides a statement of management intent and objectives for the area. In addition, it identifies allowable public recreation activities and related facilities and provides guidelines for their future management/development. It also recognizes the existing dispositions for hydropower generation and cottages, as well as the desirability of maintaining viable recreation/tourism business opportunities in the area.

While this plan focuses on management of Peter Lougheed and Spray Valley Provincial Parks, regional and valley-wide perspectives have been considered to ensure proper integration and co-ordination across protected area and jurisdictional boundaries.


Map 1
Regional Locations of
SPRAY VALLEY and PETER LOUGHEED
PROVINCIAL PARKS
Provincial Park Boundary
Kananaskis Country Boundary
Scale
BOW VALLEY
WILDLAND PARK
BOW VALLEY
PROVINCIAL
PARK
BOW VALLEY
WILDLAND PARK
SPRAY VALLEY
PROVINCIAL
PARK
ELBOW-SHEEP
WILDLAND PARK
PETER LOUGHEED
PROVINCIAL PARK
DON GETTY
WILDLAND PARK
ALBERTA
Edmonton
Calgary
DON GETTY
WILDLAND
PARK
BLUERock
WILDLAND
PARK
ELBOW-SHEEP
WILDLAND PARK

1.4 PUBLIC INVOLVEMENT

Public involvement occurred at the beginning of the planning process when over 600 interested individuals or groups were provided with the draft terms of reference. Many written comments were received and all were carefully considered in finalizing the terms of reference, which guided the preparation of the draft plan.

This draft plan will be distributed to all interested groups and individuals for their review and comment. The plan will then be finalized and approved as the official government policy for managing Peter Lougheed and Spray Valley Provincial Parks.

2.0 ROLE IN ALBERTA'S NETWORK OF PROTECTED AREAS

2.1 LEGISLATION AND CLASSIFICATION

Provincial Parks are established under the *Provincial Parks Act* to protect provincially significant natural history and cultural features. They offer a range of outdoor recreation, heritage appreciation and tourism opportunities, facilities and services so that visitors can explore, enjoy and appreciate the natural world.

The *Provincial Parks Act* is the legislative authority for the establishment and management of provincial protected areas including Peter Lougheed and Spray Valley Provincial Parks. Regulations under the Parks Act allow for the enforcement of measures to protect natural and cultural features and ensure safe and enjoyable recreational experiences. All provisions of the approved management plan will be implemented and enforced under the authority of this Act. Other provincial legislation that provides authority for certain management activities within these Provincial Parks includes the Wildlife Act and Forests Act.

Provincial policies and guidelines that direct the management of Peter Lougheed and Spray Valley Provincial Parks include the Kananaskis Country Recreation Policy (1999), A Policy for Resource Management of the Eastern Slopes (1984 rev.), the Kananaskis Country Subregional Integrated Resource Plan, the Kananaskis Country Architectural Theme Guide, the Alberta Tourism Recreational Leasing (ATRL) policy, and the Voluntary Helicopter Guidelines for Canmore/Kananaskis Country. Consistent with the management intent and objectives for these protected areas, an ecosystem-based approach will be used in their management.

2.2 SYSTEM OBJECTIVES

The following four broad program objectives are the cornerstones of Alberta's system of protected areas. They apply to differing degrees in each of the different categories of protected areas throughout the province.

Preservation

To preserve and protect in perpetuity a system of representative, special and outstanding natural landscapes and features as well as landscape-related prehistoric, historic and cultural resources of Alberta.

Heritage Appreciation

To provide opportunities to explore, understand and appreciate the natural, historical and cultural heritage of Alberta, and to enhance public awareness of our natural environment and our relationship to and dependence on it.

Outdoor Recreation

To provide a variety of intensive and dispersed outdoor recreation opportunities and related facilities and services.

Tourism

To encourage residents and visitors to discover and enjoy the natural, historical and cultural resources of the province through a variety of recreation opportunities, facilities and accommodation services.

2.3 NATURAL REGIONS FRAMEWORK

Peter Lougheed and Spray Valley Provincial Parks are located in the Rocky Mountain Natural Region of the province and include areas representing alpine and subalpine subregions.

2.4 NATURAL HISTORY THEMES

All protected areas represent one or more of the province's six Natural Regions and twenty subregions. On a more detailed level, they all contain a number of natural history "themes". Themes are the natural characteristics of an area such as landforms, forest types or plant communities that help to determine how representative or unique that area is. The rationale for and a complete description of these themes for all provincial regions is contained in "Natural Regions, Subregions and Natural History Themes of Alberta, A Classification for Protected Area Management", Alberta Environmental Protection, December 1994 which is included in the List of References. Peter Lougheed and Spray Valley Provincial Parks contain approximately 50 natural history themes, which are listed in Appendix 2. Some of the notable themes include subalpine larch forest and varied alpine vegetation communities.

2.5 GUIDING PRINCIPLES

Parks and Protected Areas are committed to managing parks and protected areas consistent with existing legislation and policies so as to protect and maintain natural, cultural, recreational and tourism values for the benefit and enjoyment of all Albertans.

Besides this more general goal, an ecosystem-based management approach will be applied in the Peter Lougheed and Spray Valley Provincial Parks. This approach calls for establishing and maintaining common goals and positive long term working relationships among land managers, stakeholders, neighboring jurisdictions and visitors. The goal is to strike the right balance between protection and human use in the planning area considering the broader regional landscape. This ecosystem-based approach is often characterized as follows:

- Ecosystems extend beyond protected area boundaries. While management on neighboring lands may affect wildlife, air, water, and vegetation within a protected area, likewise management within a protected area may affect adjacent lands. Ensuring good communication and collaboration among land managers and stakeholders including neighboring jurisdictions is essential.

- People are a fundamental part of the ecosystem. Parks and Protected Areas and other government departments will work with visitors, residents and stakeholders to provide high quality, sustainable recreation and tourism opportunities within the planning area while protecting ecological and cultural heritage. Understanding the relationship between people and the environment is the foundation of good management decisions.

- The traditional relationship of Alberta's aboriginal peoples to the land is a source of inspiration and understanding.

- Decisions are based on the best available ecological, cultural, economic and social information.

- The precautionary principle will be applied when potential consequences are uncertain.

- Monitoring, research and adaptive management are key components of an ecosystem-based approach.

- Providing high quality volunteer opportunities as well as visitor information, interpretation and environmental education programs is essential.

- Where it becomes desirable to maintain or restore healthy ecosystems through reclamation or other actions, local native species, patterns and processes will be used wherever possible.

- Parks and Protected Areas and Alberta Sustainable Resource Development will work towards the establishment of more precise monitoring targets and/or indicator species through ongoing research and regional planning activities.

3.0 OVERVIEW OF THE PLANNING AREA

3.1 ACCESS

The main road access to both parks is via the Trans Canada Highway and Highway 40 with the Smith-Dorrien/Spray Trail providing access from Canmore to the Smith-Dorrien and Spray Valley. The Peter Lougheed core area is more intensively developed with visitor facilities than Spray Valley Provincial Park. Highway 40 south of the entrance into the facility area of Peter Lougheed Provincial Park is subject to a winter closure (December 1 to June 15) as far as Highwood Junction The Valleyview Trail within Peter Lougheed Park is a narrow, gravel standard that utilizes the former Forestry Trunk Road. It is lightly used and is closed for the same winter period as Highway 40.

3.2 FEATURES

3.2.1 Geology/ Landforms/Soils

The elevations vary from 1600 m (5,200 ft) in the Kananaskis Valley bottom to over 3000 m (9,800 ft) at the peaks of many of the mountains along the Great Divide. High, rugged cliffs, peaks and ridges composed of limestones, dolomites and shales predominate. There are also outcrops of sandstones, siltstones and coal. Several major thrust faults are visible here including the Lewis, Rundle and Bourgeau. Significant fossil resources have been studied on Mt. Rae. Folding is dramatically represented in peaks such as Mt. Foch and Mt. Sarrail within Peter Lougheed Provincial Park. Twenty-three glaciers are located at higher elevations within Peter Lougheed Provincial Park and many typical glacial landscape features are visible including "U" shaped valleys, cirque basins, moraines and other glacial deposits. Several rock glaciers, rockfalls (eg. Palliser and Indefatigable), landslides as well as large scree slopes are also found here. Two locations for permafrost are known in Ptarmigan Cirque and Mt. Sparrowhawk. The main terrain types of the lower forested slopes include colluvium, terraces and morainal features. The flood plain of the Kananaskis River occupies the valley bottom north of Lower Kananaskis Lake.

Soils are those typical of a mountain environment. The range of surficial deposits, topography and vegetation in these parks has, over time and under fluctuating climatic conditions, resulted in the development of soils with varying characteristics. Soil surveys have identified five soil orders in the facility area of Peter Lougheed Provincial Park including Luvisols (on well drained coarse till deposits under closed coniferous forest), Brunisols (on well drained hummocky moraine under a variety of coniferous vegetation), Regosols, Organics and Gleysols.

A former gypsum mine located near tree line on Mount Invincible has continued to erode since its closure in 1969. Some seeding and tree planting was carried out on this site in 1991 and additional reclamation is planned.

3.2.2 Climate

Peter Lougheed and Spray Valley Provincial Parks are affected by both prairie and mountain climates with more precipitation in winter than summer and generally moderate temperatures. Long-term climate records have been kept since 1939 at the nearby Kananaskis (Boundary) Ranger Station while records have been kept at Peter Lougheed Provincial Park since 1978. The annual temperature profile sees the lowest average temperatures in January and highest in July. The average annual precipitation is less at the valley bottom than at higher elevations. Snow measurements show a significant increase in depth at higher elevations near the Divide. March and April see the highest average snowfall accumulation. Prevailing winds are westerly with occasional winter cold snaps that bring cold air from the north.

Avalanches are natural disturbances that affect public safety, vegetation, wildlife and property within Peter Lougheed and Spray Valley Provincial Parks. Provincial staff monitor avalanche hazard levels in these locations, providing regular updates to the Canadian Avalanche Association's public information system and issuing avalanche advisories when appropriate. This assists backcountry travelers to make informed decisions and minimize the risk of avalanche during their activities. Hazard levels along the Smith-Dorrien/ Spray Trail, which passes through Spray Valley Provincial Park, are monitored and, where required, trained staff conduct blasting or other control work in conjunction with road maintenance contractors and the RCMP.

The Forest Protection Division (FPD) of Alberta Sustainable Resource Development maintains a Sacramento precipitation storage gauge system and makes weather observations at the Kananaskis Fire Lookout. The system is mainly geared to fire hazard forecasting. Parks and Protected Areas operates one year round weather station within Peter Lougheed Provincial Park.

3.2.3 Aquatic Resources

These parks encompass the upper portions of the Kananaskis River drainage and the Spray Reservoir portion of the Spray River drainage. Both are tributaries to the Bow River, with the Kananaskis River entering at Seebe and the Spray River entering the Bow within Banff National Park. A significant number of streams have had their hydrological characteristics altered as a result of engineering works by TransAlta in order to manage flows and hydropower generation. These include chanellization (e.g. Kent Creek), reversed flow across a drainage divide (e.g. Burstall Creek), beheaded drainage through tributary diversion (e.g. Smith-Dorrien Creek) and major earthfill dams (e.g. Lower Kananaskis Lake, Spray Reservoir).

The main hydrologic features of the parks are:

Upper Kananaskis Lake: The first earth dike to store water in Upper Kananaskis Lake (original surface area of 580 ha) was constructed by Calgary Power in 1932-33. In 1942 the initial dam was replaced and a second dam built on the northeast corner of the lake. In 1955 a power plant was built at Interlakes. The original lake level was 1682.5 m above mean sea level (A.S.L.) with a depth of 83.4 m. The construction of the dam resulted in a full supply level of 1707 m A.S.L. and a low

supply level of 1690.0 m. This results in an annual drawdown of about 17 m. The surface area of the lake at full supply level is 868 ha with a maximum depth over 100 m.

Lower Kananaskis Lake: In 1955 an earth filled dam was built at Lower Kananaskis Lake (original surface area of 290 ha) and a power plant constructed downstream on the Kananaskis River. A penstock was built to direct water from the lake to the plant. In 1956 most of the flow of Kent Creek was diverted by a canal to the lake near the dam. The surface area of the lake at full supply level is 646 ha and it has an average winter drawdown of 12.5 m.

Spray Lakes Reservoir: Prior to dam construction, the "Spray Lakes" consisted of three stream-connected lakes: Jackson's Pond; Upper Spray Lake (1.6 km long); Lower Spray Lake (3.2 km long). These lakes had a total surface area of about 180 ha. The maximum depth of Lower Spray Lake was 29 m. By 1950, the Canyon and Three Sisters dams were completed creating a reservoir 21 km long by .8 km wide with an area of 1952 hectares. The maximum depth is now about 65 m. Spray Reservoir is located at an approximate elevation of 1710m asl and is low in nutrients. The reservoir has an annual average drawdown of 10 m. A second small reservoir known as Goat Pond is located 2 kilometres northwest of Spray Lakes. This reservoir directs water into the Goat Canal which carries the water north to Whiteman Dam and through two hydroelectric generating stations.

High Mountain Lakes: Many of the high mountain lakes in the planning area were formed in glacially eroded bedrock basins (cirques) at elevations close to the treeline. These include; Maude, Lawson, Headwall, Three Isle, Rawson, Invincible, Aster, Commonwealth, Chester, Rummel, Shark, Smuts, Fortress, Lillian, Galatea, Ribbon, Memorial, and Elbow. Typically, the high mountain lakes are greater than 10 ha in surface area and less than 10 m in depth. They often have low biological productivity. Their surfaces remain frozen for more than 6 months of the year, their shorelines are often rock, and their bottoms lack aquatic vegetation (Thompson 1978). With the exception of Lawson Lake, these lakes do contain sport fish populations. Elbow contains non-native brook trout whereas the other lakes contain native Westslope Cutthroat trout. Chester Lake is unique in that it contains both native Westslope Cutthroat trout and non-native Northern Dolly Varden. Fish and Wildlife Division is considering options to deal with this non -native fish species located in an area where protecting and enhancing the native fishery is a management priority. Self-reproducing populations are found in Rawson, Rummel and Chester lakes while the remainder are sustained by stocking on a regular basis.

Valley Bottom Lakes: These lakes are situated on glacial deposits or alluvial sediments. Marl, Sparrow's Egg, Hogarth, Mud, Spillway, Burstall and Watridge are examples of these lakes. They are shallow and have shorelines consisting of organic sediments that have grown in the water or have been deposited from neighboring forest ecosystems. Marl and Spillway do not contain sport fish. The remainder contains native Westslope Cutthroat trout that are maintained with regular stockings, except for Watridge, which has a self-sustaining population.

Rivers/Streams: The Kananaskis River is the major river within Peter Lougheed Provincial Park. It starts above Upper Kananaskis Lake and after traveling through Upper Kananaskis Lake, Lower Kananaskis Lake and Barrier Reservoir enters the Bow River at Seebe. There are many other smaller watercourses that enter either the lakes or the Kananaskis River throughout the park. In Spray Valley Provincial Park the primary streams are Smuts Creek, which originates at Mud Lake, Bryant Creek and Upper Spray River, which originate within Banff National Park. Goat Creek is another smaller stream, which runs from the TransAlta Dam at Goat Pond into Banff National Park.

The native sport fish found within this area include bull trout, cutthroat trout and mountain whitefish. Lake trout are found in the Spray Reservoir, and even though they are native to Alberta they were not native to the Spray Reservoir, but were stocked shortly after the creation of the reservoir. Ciscos were also stocked in Spray Reservoir, but based on test netting in 2002 are now only present in very low numbers. Other non-native sport fish include brook trout, brown trout and rainbow trout. Native Westslope Cutthroat Trout have also been stocked in a number of high

mountain lakes and will be stocked in Upper Kananaskis Lake beginning in 2003. Bull trout were also stocked in Upper Kananaskis Lake in 2001.

3.2.4 Vegetation

The diverse slopes and aspects along with prevailing winds, sunshine and moisture create diverse vegetative and faunal habitats as well as high scenic qualities. These two provincial parks include extensive alpine and subalpine vegetation regimes. Wildfire both from aboriginal burning and from lightning has had a significant influence on the vegetation pattern that has developed in the parks. It is likely that prior to European settlement, there was a greater diversity in age classes and vegetative patterns within the parks due to more frequent disturbance by lower intensity fire. Other factors that influence the vegetation pattern include avalanches, floods, disease and human disturbances such as logging, mining and access development.

Much of the lower elevation forest in Peter Lougheed Provincial Park is lodgepole pine, which resulted from fires in 1858, 1890, 1904 and 1920. In Spray Valley Provincial Park, the area around Spray Lakes is dominated by lodgepole pine resulting from fires in 1867 and 1895 while the Galatea and Fortress areas are dominated by spruce / fir forest resulting from a fire in 1936. At higher elevations, forests have regenerated to alpine fir and Engelmann spruce. Fire initiates forest succession, maintaining a mosaic pattern of vegetation and, therefore, habitats. The average fire interval in the valley bottom and lower slopes has been 150 years. Further intervention may be desirable to create a more diverse, multi-aged forest as opposed to allowing the entire even-aged forest to grow older. Intervention could include selective stand-replacing disturbances such as prescribed fire and logging. The benefits could include increasing the diversity of habitats available for native plants and animals and improving scenic qualities.

Forested wetlands at lower elevations are dominated by lodgepole pine, Englemann spruce and subalpine fir. In a few areas, tall willows are present but most of the wetlands are dominated by bog birch, low willows, sedges, and mosses. The shrub layer in better drained parts of this pine forest is dominated by Buffaloberry, an important food for bears. Marl-rich depressions are scattered through the valley bottoms and some support distinctive vegetation communities such as the Elkwood Marl Flat to the east of Lower Kananaskis Lake. At higher elevations willow is the predominant shrub. The Smuts Creek and Burstall valley wetlands are an example of this. In higher areas and areas with a longer interval between fires, such as the south side of the Upper Kananaskis Lake or the west side of the Kananaskis Range, spruce-pine and spruce-alpine fir forest occurs. Spruce-alpine fir-alpine larch forest occurs near the timberline, primarily on northeast facing slopes. Occasional pure stands of alpine larch are also present. Also present in the higher elevations of the Park are very old alpine larch forest communities such as the 700-year-old stands in the Maude-Lawson and Little Highwood areas.

Three disjunct stands of Douglas fir forest are situated on the north side of the King Creek Gorge, the lower south slope of Mt. Indefatigable on the north shore of Upper Kananaskis Lake, and on the south end of the east side of the Kananaskis Range. Scattered Western Larch occur on the southwestern shore of Upper Kananaskis Lake and the Interlakes area.

Alpine vegetation occurs at elevations over 2300 meters and varies markedly over short distances in response to snow depth and other factors. Lichen covered rocks, mat vegetation, grassy meadows, shrub and krumholtz communities are all present in these parks.

The talus slopes and rock debris cones support a variety of shrub and herb dominated, closed plant communities although active and well-drained portions support open vegetation. The Mt. Indefatigable landslide on its southern slopes is an example of primary succession in its early stage and supports a spruce-juniper-lichen community. It is distinctive because of a prominent, colorful rock lichen presence.

Numerous avalanche paths and runout zones are an important ecological feature in both parks and provide some of the most productive vegetation complexes comprised of grass, herbaceous and shrub communities.

3.2.5 Wildfire

With the cultural changes and the development since European settlement, the frequency of wildfire has decreased within the two parks and surrounding ecosystem. This is due to the decreased use of fire on the landscape as well as suppression and prevention policies and is a North American wide phenomenon. As a result, there has been a dramatic increase in the amount, size, continuity, and arrangement of forest fuels building up on the landscape. With the heavier fuel loading, when wildfires do occur, the potential for large-scale stand replacement fires is significant. This potential fire threat could significantly impact values at risk within the parks.— Factors that influence the risk level include the location and type of development, construction materials and design, proximity to natural forest fuels, the type and condition of forest vegetation, location of combustibles and slope. A formal wildfire risk assessment and plan has not been updated recently for these parks.

3.2.6 Forest Insects and Disease

A variety of forest insects and diseases including mountain pine beetle, mistletoe and many others, are found or may occur within Peter Lougheed and Spray Valley Provincial Parks. These are subject to ongoing monitoring by the province and, depending on the threat to nearby forest areas, may be subject to a variety of control measures. Measures that result in the least disturbance are used to reduce the threat including removal or treatment of individual affected trees, small scale, selective removals, careful coordination with recreation and wildlife factors, etc.

Mountain pine beetle is considered to be an irregular forest pest in Alberta. However, the Government of Alberta is concerned about the threat of beetle outbreaks because of recent significant population increases in British Columbia and Banff National Park. Many of the pine stands in the Kananaskis Valley are considered high risk for beetles due to their advanced age. The main concerns associated with a large scale beetle outbreak here include the possibility of spread to commercially valuable pine stands elsewhere in Kananaskis Country and the risk of high intensity wildfire due to the large accumulations of dead fuels. High intensity wildfires could severely impact soils and the watershed for generations to come.

Rare or endangered vegetation has been inventoried in the past by various authors (see List of References). Listings of rare and endangered plants for Alberta, which can be found in the parks, are contained in Wallis et al. (1987) and Brunton (1978 and 1979).

A number of nuisance weeds have become established through the seeding of recreation facility areas. They are typically easily controlled species (e.g. stinkweed, flixweed, etc.) although areas of dandelions and plantain occur on older disturbed sites. The distribution has been mapped for species under the Weed Control Act. Limited herbicide control and handpulling have been conducted.

3.2.7 Wildlife

Peter Lougheed and Spray Valley Provincial Parks contain a large array of wildlife species indicative of the Rocky Mountains. Ungulate species include mule deer, white-tailed deer, elk, moose, bighorn sheep and mountain goats. All the large carnivores are present including grizzly and black bears, cougar, and wolf, as well as smaller carnivore species such as wolverine, lynx, and coyote. Smaller mammals typical of alpine and subalpine habitats also can be found such as marmots, pika and columbian and golden mantled ground squirrels. Detailed descriptions of all existing fauna including avifauna for Peter Lougheed Provincial Park have been described in Salt, 1976.

For most species, estimates of population size are lacking as no regular inventories have been conducted. Aerial surveys for mountain goats and bighorn sheep have irregularly been conducted since the early 1980's and numbers can be estimated for some of the areas within the two parks. Generally speaking, mountain goat populations within Peter Lougheed Provincial Park have increased slightly and estimates are around 100 to 120 animals. Fewer goats exist in Spray Valley Provincial Park with estimates at less than 50. Concentrations of bighorn sheep can be found along the Opal and Misty Ranges in Peter Lougheed Provincial Park, as well as along the Kananaskis Range that overlaps both parks.

Elk are common residents within the two parks but precise numbers are difficult to estimate primarily due to their seasonal movements into and out of the parks. Spray Valley Provincial Park is primarily a spring, summer and fall area for elk with few animals residing in the Park during winter. Peter Lougheed Provincial Park does have elk that are year round residents although exact estimates are unknown. Deer are common in both parks with mule deer outnumbering white-tailed deer. Moose are found in both parks but exist in relatively low numbers due primarily to the low quality and quantity of suitable habitat.

Grizzly bears have been intensively studied in Kananaskis Country at various times over the last 25 years with the Eastern Slopes Grizzly Bear Project (ESGBP) being the most recent. While population estimates have been determined during the course of these studies, confidence intervals around those estimates are wide. Current estimates for the number of grizzly bears in Kananaskis Country range from 50 to 75. Grizzly bear is a particularly sensitive and high profile species that warrant special attention. Peter Lougheed and Spray Valley Provincial Parks appear to be important areas for grizzly bear cub production. Little is known about abundance of black bear but they are considered common residents. Wolves utilize both parks.

Key seasonal habitat areas are known for some species such as sheep, goats, elk, and grizzly bears. Within Peter Lougheed Provincial Park, mountain goats occupy many of the high elevation ranges with concentrations on Kent Ridge and along the Opal Range. Lesser numbers of goats can be found in the French, Burstall, and the Upper Kananaskis River Valleys. Goats are found in much lower numbers in Spray Valley Provincial Park. Bighorn sheep summer and winter along the west exposures of the Opal Range. In Spray Valley Provincial Park, prime summer sheep range can be found at upper elevations of Ribbon Creek, Buller Creek, and upper Galatea Creek. The majority of the summer sheep population migrates out of the park to winter on the slopes of Mt Allen and along Wind Ridge. Grizzly bears range throughout the park and follow spring green-up of the vegetation from valley bottoms and along riparian areas to upper alpine and subalpine zones. In late July and August grizzly bears move down into the valley bottoms in search of Buffaloberries. This unfortunately often brings them into contact with humans. Many of the campgrounds in both parks annually experience bear conflicts due to abundant berry crops in and adjacent to some of the campgrounds and day use facilities. These conflicts are managed under the terms of the Kananaskis Country Bear Management Plan. The Spray Valley is a prime berry producing area especially along both shores of Spray Lakes Reservoir.

Elk Pass and the Kananaskis and Smith-Dorrien Valleys are important as wildlife movement corridors. The area around the south end and west side of Spray Reservoir is also important as a movement corridor for both ungulates and carnivores. Riparian zones along major creeks and rivers also provide important biodiversity, wildlife habitat and movement corridors.

3.2.8 Cultural Resources

The first known human habitation of the Kananaskis Valley took place about 8,000 years ago. Numerous prehistoric sites are located along the Highway 40 right-of-way. Prehistoric artifacts indicate a more or less continuous use over the last 7,000 years at the Eau Claire campground in the Spray Valley Provincial Park. Archaeologists suspect that people from as far away as Idaho travelled and lived in the valley during summer periods. Natives from British Columbia (probably

Kootenai and Salish) frequently travelled through the area on trading missions with plains tribes. A review of known archaeological sites in 1977 (ARESCO), indicated some 53 sites in Peter Lougheed Provincial Park though none of these were regarded as significant.

Stoney or Nakoda peoples have used the area since the 1600s for camping, hunting, gathering, ceremonial and vision quest purposes. Some of these uses continue today.

In the mid-1800s, European exploration of the area began with the James Sinclair expedition, which traversed either the South Kananaskis, or Elk passes. John Palliser conducted scientific expeditions into the region in 1858, and others passed through the valley on their way to the Pacific Coast. George Dawson of the Geological Survey of Canada did the first geological studies of the area between 1881-1884 and detailed studies in 1903.

3.2.9 Land Use History

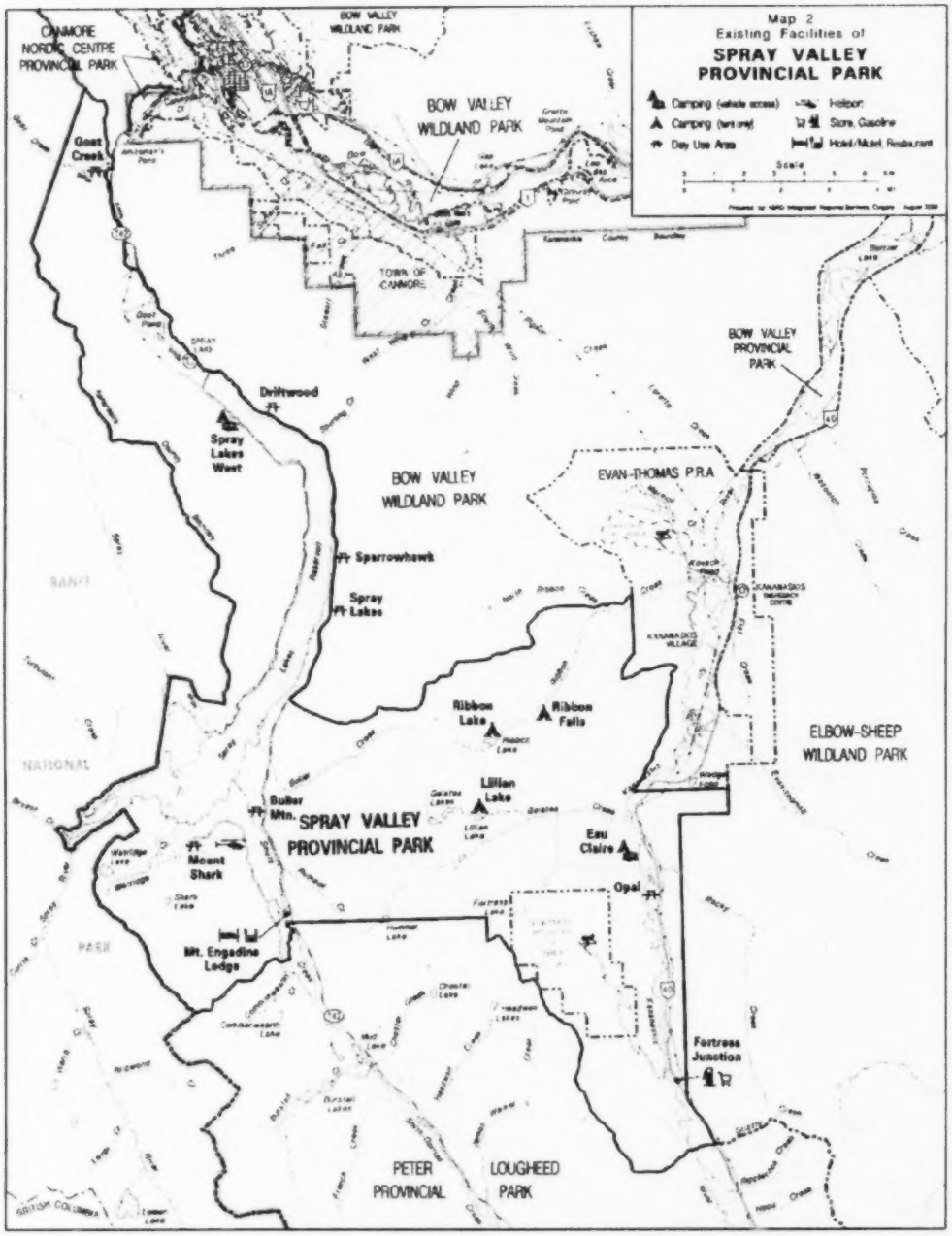
The three hydroelectric facilities and associated infrastructure in these parks are operated by Trans Alta along with 10 other hydro generating facilities in the Bow and Saskatchewan River basins. In addition to providing a reliable source of peak demand power and downstream flow management, the existing reservoirs provide boating, fishing and scenic viewing opportunities. The other significant previous land use was timber harvesting in the Smith-Dorrien Valley from the 1950s to the 1970s. The development of improved road access and associated recreation facilities by the province in the 1980s has made these parks much more accessible for year round recreation.

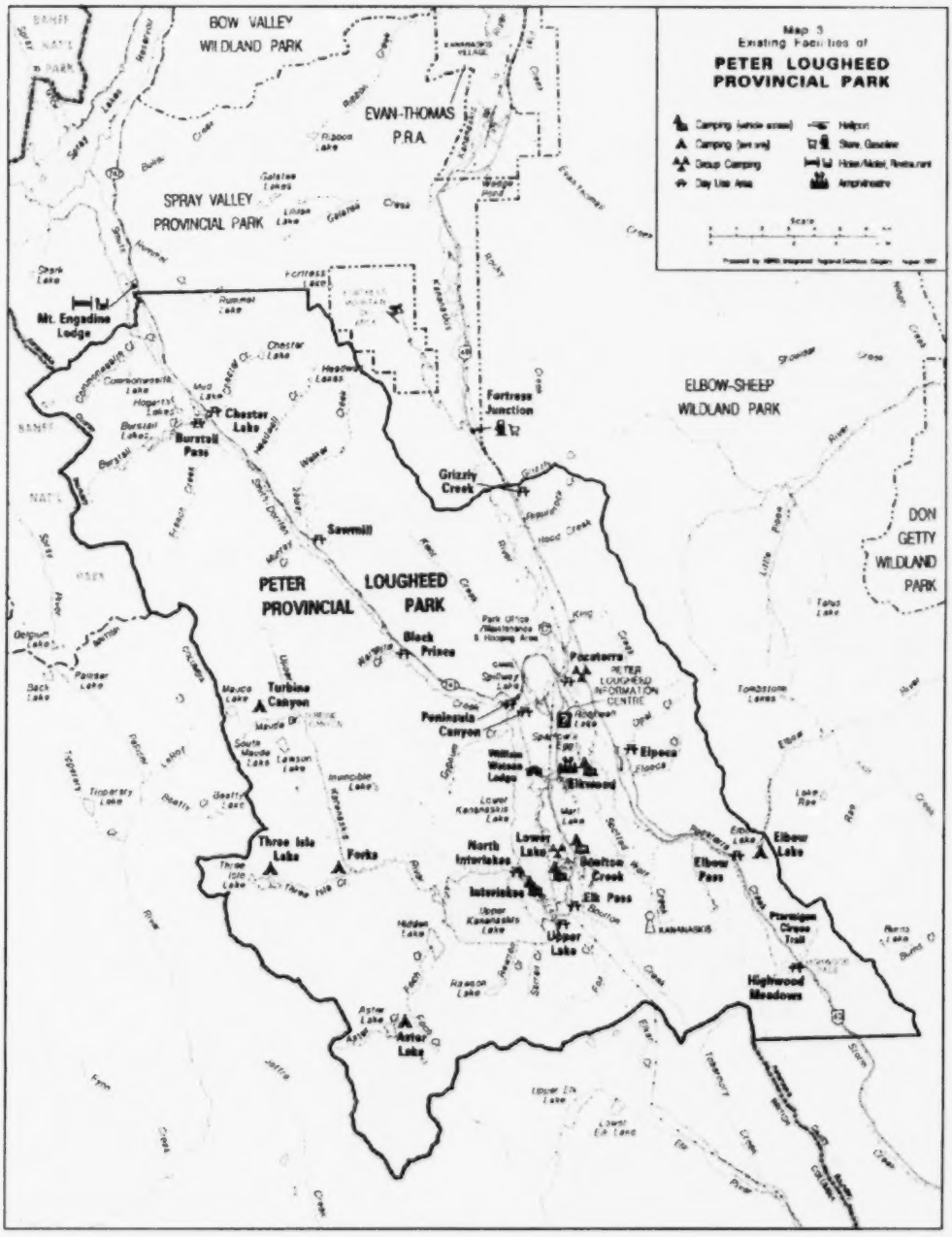
3.3 Visitor Facilities And Use

The most popular recreation activities in the planning area include camping, picnicking, trail use, boating and fishing. Fortress Mountain ski area exists in the Kananaskis Valley on Provincial Crown Land surrounded by Spray Valley Provincial Park.

Spray Valley Provincial Park contains a 50 unit campground on the west shore of Spray Lake and Eau Claire Campground in the Kananaskis Valley with 51 units. Winter camping occurs at Buller Mountain Pond in the Spray Valley. Six developed day use areas are used for picnicking, fishing or trailhead access (see Map 2). Approximately 43 km of designated trails are used for summer hiking, mountain biking, cross country skiing and some horse use. Backcountry campgrounds at Ribbon Falls, Ribbon Lake and Lillian Lake have 49 campsites operated on a reservation basis. Random backcountry camping occurred at Rummel Lake and several other locations prior to the establishment of Spray Valley Provincial Park. Private sector fixed roof accommodation for approximately 24 people is offered at Mt. Engadine Lodge near the Mt. Shark access road (see map). Other popular recreation activities in Spray Valley Provincial Park include boating and fishing on the Spray Reservoir in summer while ice fishing, cross country skiing, snowshoeing and biathlon (at Mt. Shark) are popular in winter. Ski touring and backcountry telemark skiing also occur at several locations along the Smith-Dorrien road in winter. Other popular winter activities include commercial dog sledding and ski-joring near Three Sister's Dam and Mt. Shark. The Rudi Setz Memorial Biathalon Range is located adjacent to the Mt. Shark trailhead. It accommodates recognized biathalon events and requires a permit issued by parks staff for use. A helicopter landing site is maintained near Mt. Shark trailhead for commercial and government purposes. At Spray Lakes West, Eau Claire, Ribbon Falls, Ribbon Lake, and Lillian Lake, camping use reached 23,528 camper nights during the 2000/2001 seasons.

Within Peter Lougheed Provincial Park, there are seven regular auto access (total 496 camping units) and two group campgrounds (30 units), 22 day use areas and a major visitor center (see Map 3). There are approximately 220 km of summer and winter trails in this park and five backcountry campgrounds (83 units). Some trail use within this park extends across boundaries into British Columbia and Banff National Park through North and South Kananaskis, Burstall and Elk passes. Trail use also extends east into the Elbow Sheep Wildland Park through Elbow Pass. Boating and fishing occur mainly on the Upper and Lower Kananaskis Lakes. A former Minimum


Map 2
Existing Facilities of
SPRAY VALLEY
PROVINCIAL PARK
Camping (vehicle access)
Camping (tent only)
Day Use Area
Heliport
Store, Gasoline
Hotel/Motel, Restaurant
CANMORE
NORDIC CENTRE
PROVINCIAL PARK
BOW VALLEY
WILDLAND PARK
Goat
Creek
TOWN OF
CANMORE
BOW VALLEY
PROVINCIAL
PARK
Driftwood
Spray
Lakes
West
BOW VALLEY
WILDLAND PARK
EVAN-THOMAS P.R.A
Sparrowhawk
Spray
Lakes
Ribbon
Lake
Ribbon
Falls
ELBOW-SHEEP
WILDLAND PARK
Lillian
Lake
Buller
Mtn.
SPRAY VALLEY
PROVINCIAL PARK
Mount
Shark
Eau
Claire
Opal
Mt. Engadine
Lodge
Fortress
Junction
PETER
PROVINCIAL
LOUGHEED
PARK


Map 3
Existing Facilities of
PETER LOUGHEED
PROVINCIAL PARK
BOW VALLEY
WILDLAND PARK
EVAN-THOMAS
P.R.A.
SPRAY VALLEY
PROVINCIAL PARK
ELBOW-SHEEP
WILDLAND PARK
DON
GETTY
WILDLAND
PARK
PETER
LOUGHEED
PROVINCIAL
PARK
Mt. Engadine
Lodge
Chester
Lake
Burstall
Pass
Fortress
Junction
Grizzly
Creek
Sawmill
Block
Prince
Pocaterra
Turbine
Canyon
Peninsula
Canyon
William
Watson
Lodge
Elkwood
Elpoca
Three Isle
Lake
Forks
North
Interlakes
Lower
Lake
Boulton
Creek
Elbow
Pass
Elbow
Lake
Interlakes
Elk Pass
Upper
Lake
Highwood
Meadows
Aster
Lake

Security Camp Facility that accommodated up to 40 inmates exists near Lower Lake. An increasing amount of commercial tourism, environmental education and research activities occur in this park.

William Watson Lodge provides the only fixed roof accommodation in Peter Lougheed Provincial Park. It has 22 individual cabin units and a day lodge as well as a 12 unit campground. All facilities are wheel chair accessible and the lodge is open year round. Priority for bookings is given to disabled Albertans and seniors. The other major facility in the park is the Peter Lougheed Visitors Information Centre, which is open year round and has displays, a lounge, information counter and a small gift shop.

Camping use at Peter Lougheed Provincial Park has averaged around 32,000 campsite nights (the total number of campsites occupied annually) over the last ten years. Although, camping levels fluctuate significantly with weather in many parts of Alberta, the numbers at Peter Lougheed have remained steady over the last 10 years. Peter Lougheed has two group camp facilities averaging about 500 group nights at Pocaterra and 1000 group nights at Lower Lake.

Reliable use figures for individual day use areas or the park as a whole are not available. A significant amount of day hiking, mountain biking and cross-country skiing use occurs mainly on designated trails within the park. A review of cumulative figures for all sites in Peter Lougheed Provincial Park reveals an average of 188,760-day use visitors in 2000. Available estimates suggest an increasing level of day use and field staff observations support this. Given the provincially significant recreation opportunities in Peter Lougheed Provincial Park, the growth in Calgary and Canmore populations, as well as the excellent road access and short travel times, increased levels of both overnight and day use are expected for all activities in the Park along with the resulting increased potential for impacts and conflicts. The popularity of mountain biking and rock climbing in particular along with random use in general require increasing management attention to ensure visitor safety and enjoyment, as well as resource protection.

3.4 Heritage Appreciation

Parks and Protected Areas provide a variety of interpretive, information, and environmental education services and materials relating to Peter Lougheed Provincial Park and Spray Valley Provincial Park. The Peter Lougheed Provincial Park Visitor Information Centre distributes a variety of maps, brochures and other information and public safety-oriented products. Parks and Protected Areas (ACD) also maintains current information regarding the parks on the Kananaskis Country website. ACD has a co-operating agreement with the Friends of Kananaskis Country to enhance the delivery of information and education materials and programs in these parks. An educational partnership between Parks and Protected Areas and a number of school boards and related groups to develop and provide educational services. Public education about managing human use in protected areas occurs through use of signs, media, school and other group presentations.

A high level of personal interpretive services is offered during the summer at Elkwood and Boulton campgrounds in Peter Lougheed Provincial Park. Interpretive presentation topics include management concerns, safety, natural and cultural history and personal responsibility for protection of the environment. Interpretive signs and/or exhibits in the Peter Lougheed Provincial Park Visitor Information Centre are used to increase visitor awareness of the natural and cultural history of the area.

3.5 Tourism

Mount Engadine Lodge provides fixed roof accommodation in Spray Valley Provincial Park. It can accommodate 24 people in double and shared rooms. Two cabins are also available with two bedrooms each. The lodge is open year-round for a variety of activities. The Fortress Junction Service Station on Highway 40 is open year round and has fuel, general store, and day use sites.

Although there are few commercial tourism facilities in these parks, they are extensively used by guiding businesses, both in the summer and the winter. In the winter, guides conduct cross country skiing, backcountry skiing, winter mountaineering, dog sledding, ice fishing and ice climbing activities. In the summer, hiking, biking, mountaineering, rock climbing, and fishing are popular guided activities. Approximately 100 permitted guides most of whom are from the Calgary and Canmore area use the parks. All businesses using the parks must have a permit issued by Parks and Protected Areas. The permit conditions are intended to ensure the safety and enjoyment of all users and the protection of the environment.

There are several large commercial guiding operations in the parks that are of note. The Spray Lake Dam is used by three dog sledding services. One commercial trail riding operator uses the Mt. Shark trailhead for staging into Banff National Park and other operator's stage out of the Elbow Pass Trailhead, into the Elbow Sheep Wildland Park. The helicopter landing pad at Mt Shark is used as a staging area to gain access to Mt. Assiniboine Provincial Park in BC. Commercial helicopter use is managed under the terms of a cooperative helicopter use agreement between the Alberta government and local helicopter companies.

A variety of special events also occur in Peter Lougheed and Spray Valley Provincial Parks including the Kananaskis 45 Ski Marathon, the Kananaskis 100 Relay Race, and the Sharkfest Ski Races. Events can range in size from 25 to over 1000 participants and occur during both summer and winter. Popular locations for the events include Spray Lakes, Highway 40, Smith-Dorrien Road, Mount Shark and Peter Lougheed facility area.

3.6 INFRASTRUCTURE

Water Supply

Developments within both parks are serviced by many separate water supply systems. Because of the remote and segregated nature of the development nodes it is not practical to have a centralized water supply and treatment facility. Water supplies consist of numerous hand pumps, wells with chlorinated and pressurized supplies to local distribution systems. A water treatment facility that services the William Watson Lodge and adjacent Elkwood campground provides more advanced treatment from a surface water source (Lower Kananaskis Lake).

Parks and Protected Areas Division is responsible for monitoring, operating and maintaining the systems in both parks to ensure all supply and treatment systems are operated in accordance with current environmental guidelines.

Sewage Treatment

Developments in both parks are serviced with septic fields, holding tanks, and pit toilets. A sewage treatment plant at William Watson Lodge services the William Watson Lodge and Elkwood Campground and will also treat sewage from pit toilets and holding tanks in the immediate vicinity.

Electricity/Gas

A 138 KV line supplies power throughout the Kananaskis valley. Primary distribution is provided by Aquila Networks Canada. In the Spray Valley, no power lines exist south of the Three Sisters Dam.

All facilities and housing in Peter Lougheed Provincial Park and Spray Valley Provincial Park are serviced with on site propane tanks.

Solid Waste Disposal

The Kananaskis Improvement District provides municipal waste collection, which is trucked and disposed of at a landfill site in Calgary.

Administration/Public Works

Administration and maintenance facilities are centrally located in Peter Lougheed Provincial Park. Alberta Transportation also operates from here to do year round road maintenance.

Staff Housing

Twenty-four houses and cabins exist adjacent to the administration area for Parks staff as well as contractor's staff and recreation facility operators that have a need to reside in the parks.

Emergency Services

Emergency services are provided jointly by Parks and Protected Areas and Kananaskis Improvement District. Fire protection, ambulance service, police service and backcountry rescue are dispatched from the Kananaskis Emergency Services Centre. The 911 emergency telephone system is in place throughout Kananaskis Country. A fire engine is kept at the administration/maintenance yard in Peter Lougheed Provincial Park. The threat from wildfire is assessed daily by staff of Sustainable Resources Development during fire season and the appropriate levels of resources are based through the area at strategic locations as required. Wildfires are reported using the current emergency phone numbers.

3.7 ADJACENT LAND USES

Elk Lakes Provincial Park and Height of the Rockies Provincial Park in British Columbia lie to the south and west of Peter Lougheed Park. The Height of the Rockies is accessed from the Three Isle Lake Trail and a route over Mount Northover. Elk Lakes Park has a main access from the Elk Pass Trailhead in Peter Lougheed Provincial Park while some hikers access the Height of the Rockies through South and North Kananaskis Passes. Banff National Park lies to the west of both parks and the major access point into the south end of the park is at the Mt Shark trailhead. Since recreational use and wildlife flow freely across these boundaries, it is important to maintain a high level of cooperation in managing human use and wildlife issues. Bow Valley Wildland Park lies to the north and east of Spray Valley Provincial Park. Informal access into Bow Valley Wildland Park occurs at various locations along Highway 742 (Spray/Smith-Dorrien Trail) The Spray portion of this Wildland Park is lightly used for hiking, mountain climbing and backcountry skiing. The Elbow Sheep Wildland Park lies east of Peter Lougheed Provincial Park with main access from the Elbow Pass Trailhead on Highway 40. This Wildland Park allows hunting and is used extensively for equestrian riding, hiking and mountain biking.

A cottage subdivision created in 1960 is located on leased provincial crown land along the eastern shore of Lower Kananaskis lake and is surrounded by Peter Lougheed Provincial Park. Most individual cottages have their own water source and sewage systems. Municipal services are provided by Kananaskis Improvement District.

TransAlta holds several dispositions surrounding Upper and Lower Kananaskis Lakes for its hydroelectric power operations. Other adjacent land uses to Peter Lougheed and Spray Valley Provincial Parks include Fortress Mountain Ski Area, which is accessed from Highway 40 at Fortress Junction. Overnight accommodation is available here in winter season. Further north in the Kananaskis Valley, the Evan Thomas Provincial Recreation Area offers a wide range of recreational opportunities, facilities and services. These include hotels, a youth hostel, Nakiska ski hill, Mt Kidd RV Park, golf courses, day use sites, and a variety of trails for summer and winter.

4.0 MANAGEMENT INTENT AND OBJECTIVES

The **proposed management intent** for Peter Lougheed and Spray Valley Provincial Parks is:

> "To maintain ecological integrity and diversity and provide opportunities for outdoor recreation, heritage appreciation, tourism or any combination of those purposes, which are dependent on and compatible with the protection of the natural values found here".

The **proposed management objectives** in order of priority are:

> **Preservation**: to preserve or enhance naturally occurring ecosystems including especially rare or uncommon species and to ensure that natural ecological processes are allowed to occur.
>
> **Outdoor Recreation**: to provide opportunities for recreational uses such as camping, hiking, mountain biking, cross country skiing, boating and fishing.
>
> **Heritage Appreciation**: to provide opportunities for visitors to experience, understand and appreciate the natural resources of the parks.
>
> **Heritage Tourism**: to provide opportunities and infrastructure to experience and enjoy the natural and cultural resources of the park.

*Note: provision of any park facilities will be consistent with the Kananaskis Country Recreation Policy (1999), Kananaskis Country Architectural Guidelines (2001) and the Alberta Tourism and Recreation Leasing process for review of commercial facilities.

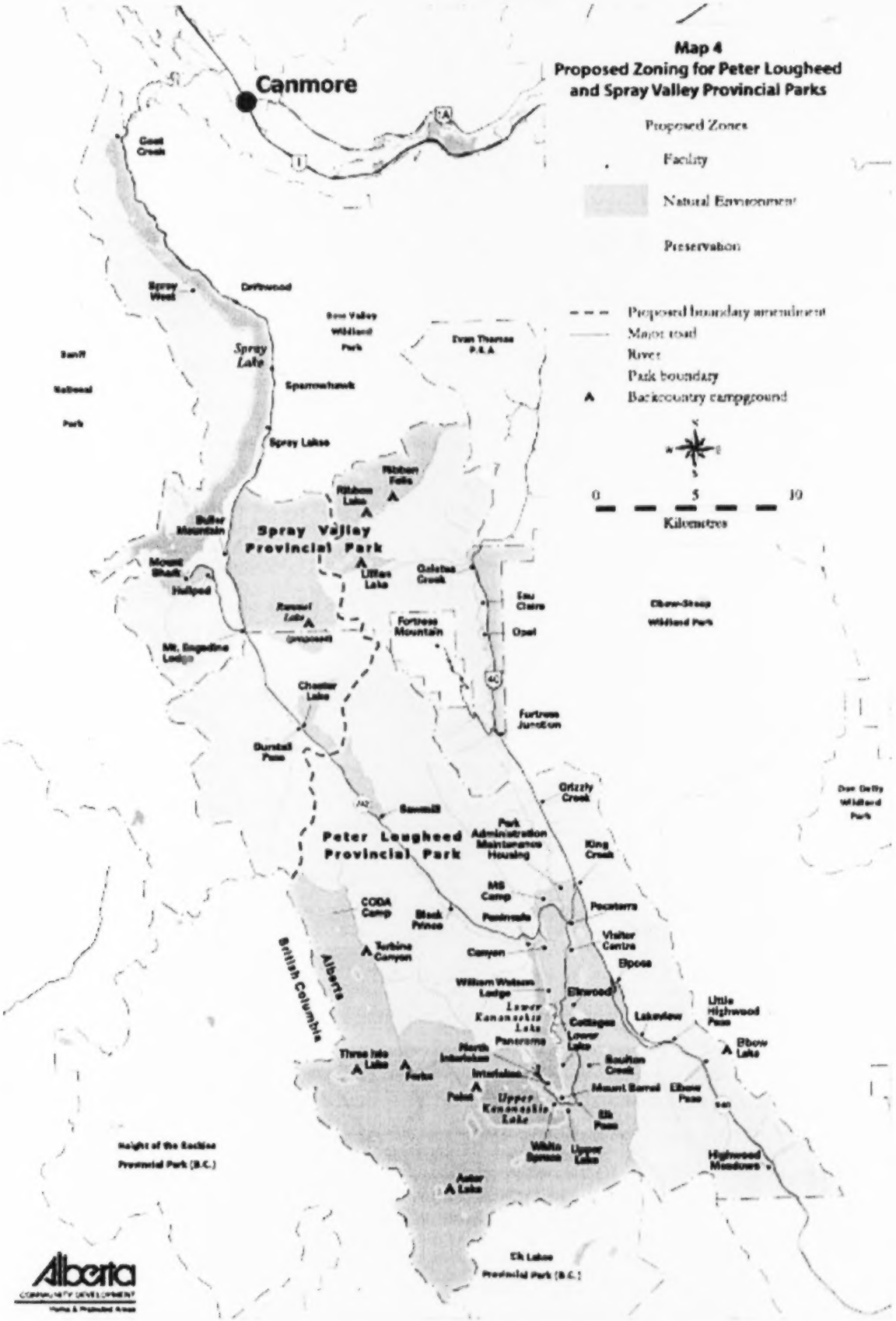
5.0 ZONING

Consistent with the management intent and objectives for Peter Lougheed and Spray Valley Provincial Parks, a zoning scheme has been applied. This scheme is described in more detail in "Management Plan Format: Provincial Parks, Wildland Parks, Recreation Areas, Wayside and Access sites, Wilderness Areas, Natural Areas" which is included in the List of References. The Provincial Protected Area scheme includes seven candidate zones of which three have been applied in Peter Lougheed and Spray Valley Provincial Parks (see Appendix A). The different zones recognize the differences in resource values as well as visitor use and landscape capability in different parts of these parks (see Map 4).

Preservation zones have been applied to those portions of these parks that are known to be important as wildlife habitat (e.g. sheep or goat range, bear habitat) or movement corridors or having sensitive or rare species, rich biodiversity or flood prone riparian areas. Existing designated trails will remain in these preservation zones, but no new trails, backcountry campgrounds or other facilities will be developed. Off trail use will be discouraged.

Those areas in the immediate vicinity of existing facility developments have been zoned **"Facility"**. Where potential future expansion is anticipated near Boulton Campground and Engadine Lodge, sufficient land area to accommodate this has been included.

A "**Natural Environment**" zone has been applied to the rest of these parks. This recognizes the year round trail recreation and backcountry camping that occurs, as well as the wildlife and other natural values found here.


Map 4
Proposed Zoning for Peter Lougheed and Spray Valley Provincial Parks
Proposed Zones
Facility
Natural Environment
Preservation
Proposed boundary amendment
Major road
River
Park boundary
Backcountry campground
0
5
10
Kilometres
Canmore
Spray Valley Provincial Park
Peter Lougheed Provincial Park
Spray Lake
Spray Lakes
Ribbon Falls
Ribbon Lake
Buller Mountain
Mount Shark
Hailpod
Little Lake
Galatea Creek
Eau Claire
Opal
Fortress Mountain
Fortress Junction
Chester Lake
Dunstall Pass
Grizzly Creek
Sawmill
Park Administration Maintenance Housing
King Creek
MB Camp
CODA Camp
Black Prince
Peninsula
Pocaterra
Visitor Centre
Bpose
Turbine Canyon
Canyon
William Watson Lodge
Elkwood
Lower Kananaskis Lake
Cottages
Lakeview
Little Highwood Pass
Elbow Lake
Panorama
Lower Lake
Boulton Creek
Three Isle Lake
Porks
Interlakes
Mount Sarrail
Elbow Pass
Upper Kananaskis Lake
Elk Pass
White Spruce
Upper Lake
Highwood Meadows
Aster Lake
Elk Lakes Provincial Park (B.C.)
Height of the Rockies Provincial Park (B.C.)
British Columbia
Alberta
Alberta
COMMUNITY DEVELOPMENT

6.0 MANAGEMENT GUIDELINES

6.1 Preservation

6.1.1 ECOLOGICAL MONITORING AND RESEARCH

Parks and Protected Areas and Sustainable Resource Development staff will work together to identify a suite of ecological indicators to monitor ecosystem processes and health at a variety of spatial and temporal scales. Based on monitoring needs and identified ecological issues, staff will prioritize and implement research programs to collect data necessary to support management objectives. Management strategies will be developed for known endangered, threatened or otherwise significant species including the necessary actions taken to ensure that they are adequately protected.

6.1.2 Aquatic Resources

The waters found within Peter Lougheed Provincial Park and Spray Valley Provincial Parks will continue to be managed using existing legislative and regulatory tools. Any activities that could potentially affect the waters within these parks will require a permit or approval from Alberta Environment and the Department of Fisheries and Oceans as appropriate. The intent is to meet the "no-net-loss" goal for fish habitat set out in the Alberta Fish Conservation Strategy and the Federal Department of Fisheries and Oceans guidelines. The management of the fisheries resources will follow the guidelines set out in the Alberta Fish Conservation Strategy with emphasis on native fish where possible. The most recent changes related to fisheries are the introduction of bull trout and, in 2003, cutthroat trout to Upper Kananaskis Lake. The other potential change will be to deal with the non-native Northern Dolly Varden introduced into Chester Lake in 1974. These fish are non-native and have the potential to impact the native bull trout found in the drainages downstream of Chester Lake.

6.1.3 Vegetation

The conservation of a high diversity of native alpine and sub-alpine vegetation communities and representative of the Central Canadian Rockies Ecosystem will be accomplished by undertaking an analysis of historic and current landscape conditions and making recommendations on desired vegetation community structure for the planning area. It is hoped that this will be completed by December 2004. This will consider important terrestrial and aquatic habitats both inside and adjacent to the parks. Also, wherever possible, natural processes of vegetative change will be permitted including wild fire, flooding, avalanche and insect and disease infestations. The use of techniques such as prescribed fire or selective logging may also be used to accomplish vegetation management objectives. Changes to vegetation communities will be monitored by parks staff and volunteers over time as well as assessments of the effects of these changes on park biota.

In partnership with the Alberta Natural Heritage information Centre (ANHIC), parks staff with the assistance from volunteers will identify, track occurrences maintain an up to date inventory of rare or endangered species in the park.

Park facilities will be protected from wildfire and other natural hazards through proper development planning and the management of forest fuels, structural materials and infrastructure. Parks staff working in conjunction with Sustainable Resource Development, Forest Protection Division, will update and complete a wildland/urban interface assessment for all park facilities and develop and implement a plan to reduce identified risks to park facilities. This may involve fuel modification to remove and reduce the fuel build up around facilities and/or changing building materials through regular maintenance to reduce the flammability of the structures.

The risk of major insect and disease infestations and damage will be reduced through the creation and maintenance of a high diversity of native alpine and sub-alpine vegetation communities.

Control of insect and disease infestations that may threaten park facilities, key features or resources on lands adjacent to the parks will be accomplished by an ongoing program to monitor the occurrence of insect and disease infestations in park vegetation communities by staff of Parks and Land and Forest Division. An assessment will be completed to identify those stands that are of high risk. Treatment to either reduce or eradicate the threat may include selective harvesting or prescribed fire. The use of pesticides will be minimized.

Opportunities for interpretation and viewing of representative and unique vegetation communities in Peter Lougheed Provincial Park will continue. Examples include fall viewing of larch stands in Black Prince Cirque and Highwood Pass area or seasonal alpine flowers in Ptarmigan Cirque. The development of additional public interpretive or informational materials will be considered through partnerships with appropriate groups.

Non-native vegetation especially highly invasive plants and noxious weeds will be controlled by parks staff. An inventory of known non-native and noxious weed communities will be maintained and a plan for treatment developed. The use of herbicides will be minimized with control through the use of hand and mechanical methods preferred. As well, guidelines for park activities will be developed which are designed to minimize the introduction of additional non-native species and noxious weeds. For example, equestrian users will be encouraged to use processed horse feed only rather than hay. Parks staff will also work with Alberta Environment and Alberta Transportation to identify appropriate seed mixes for use in reclamation projects and rights-of-way management.

Reclamation of the abandoned gypsum mine site on Mount Invincible should proceed with a targeted completion of fall 2005.

6.1.4 Wildlife

Both parks provide important seasonal habitats for many species. The ecological integrity of these areas will be protected. Human use within preservation zones will be restricted to existing designated trails and commercial use will be limited. For all other zones within the parks, any new trail development or new designation of trails will be carefully considered so as to not impact wildlife usage of these important ranges. There will be no further development of trails or facilities in key habitat or wildlife corridors such as Highwood Pass, Elk Pass, the south end of Spray Lakes, or along the Kananaskis River Valley to the Peter Lougheed Provincial Park north boundary. Recreational use of the Kananaskis River for boating or fishing will not be encouraged.

Maintaining a sustainable regional grizzly bear population will be a priority. Both parks are important as areas for cub production. To accomplish this, efforts will be undertaken to reduce the need to destroy or relocate problem bears through the implementation of an aversive conditioning program to discourage bears from lingering along roadsides and within high human use facility areas in the search for food. Methods will be developed to remove attractant Buffaloberry food sources from within facility areas with persistent bear problems. Secure bear proof food storage facilities will be provided in back country camping areas.

Hunting is not permitted within Provincial Parks except for management purposes.

Reintroductions of native wildlife species will generally not be considered except where human influences have impacted valuable resources or disease outbreaks have negatively affected the viability of local populations. No exotic species will be introduced into Peter Lougheed Provincial Park or Spray Valley Provincial Park.

Monitoring of winter populations of elk, bighorn sheep, and mountain goats will continue on a periodic basis when appropriate resources are available. Monitoring of amphibians at selected sites will also continue.

6.1.5 Cultural

Kananaskis Country will work with the Cultural Facilities and Historical Resources Division of Alberta Community Development to ensure that known archaeological sites within the planning area are properly inventoried, assessed and protected. Additional research into the archaeological and historical use of the area will be encouraged. Kananaskis Country will work with Aboriginal Affairs and Northern Development and the Stoney people to identify any sites of aboriginal significance and need for ongoing use. Kananaskis Country will work with partners to expand the existing information base about local history, as well as expand existing interpretive signage or programming to include historical and cultural content. Kananaskis Country will also work with volunteer stewards to monitor and report on the condition of known sites and associated signs etc.

6.1.6 Proposed Internal Boundary Amendment

In order to make park boundaries more consistent with watershed boundaries, and to create a more understandable situation on maps and signs for visitors, it is proposed to realign the boundary between Peter Lougheed and Spray Valley parks as shown on Map 4. This administrative change will see Spray Valley Provincial Park occupy a portion of the Spray drainage while Peter Lougheed Provincial Park will occupy a portion of the Kananaskis drainage. Since both are provincial parks, no change of legislation or regulation will occur and the provisions of this management plan will apply to the new arrangement as indicated.

6.2 Outdoor Recreation

6.2.1 Access

No new roads are anticipated and no public OHV use will be permitted. Parks staff will work with Alberta Transportation to coordinate ongoing road maintenance, any proposed changes in road standards and maintain the winter closure of Highway 40.

6.2.2. Recreational Use

All camping use within these two parks will continue to require a permit and only occur at designated sites. The only exception will be bivouacs required for more extended climbs which should occur in defined areas and no fires will be allowed. Existing campgrounds in Peter Lougheed Provincial Park will be maintained and/or upgraded as resources permit except for the closure of Mt. Sarrail walk-in campsite. It will be closed and reclaimed to reduce the frequent encounters between bears and tent campers. Parks and Protected Areas staff will ensure that sufficient walk-in camping opportunities still exist within Peter Lougheed Park. If future demand warrants, some expansion of camping facilities at Boulton and William Watson Lodge Campgrounds may be considered. Parks staff will identify a site suitable to accommodate overflow camping in Peter Lougheed Provincial Park.

Camping opportunities in Spray Valley Provincial Park will be maintained in the Spray West, Eau Claire and Buller Mountain Pond (winter only) campgrounds. No other vehicle accessible camping will be developed in Spray Valley Provincial Park. Staff will monitor use levels at day use sites in both parks and, where appropriate, determine the desirability and feasibility of expansion, consolidation or reclamation. Staff may also encourage visitors to redirect their day use activities to less used sites.

The risk of human-bear conflict will be addressed by a variety of measures including visitor information and education, site planning and design, temporary closures, monitoring bear movements and managing attractants (examples: human food, garbage, and natural bear foods like Buffaloberry bushes).

Existing designated trails will be maintained and upgraded as required. Mountain bike and equestrian use will only be permitted on designated, signed trails or routes. Horse use of Watridge Lake trail will continue for those authorized to use horses in the south end of Banff National Park. Limited additional equestrian staging facilities (e.g. corral) will be considered at Mt. Shark where conflicts and impacts will be minimized. It is proposed that the Rummel Lake trail be designated for hiking and upgraded or rerouted where necessary. Parks staff will work with Alberta Transportation to determine a suitable location for a trailhead parking area with standard facilities to serve this trail. A new backcountry campsite will be developed at Rummel Lake for winter use. The trail may be used for backcountry ski touring in winter, but will not be groomed. Designation of the Spray West side road as a trail was considered but will not occur because of the important and narrow grizzly bear movement corridor here. The development of a new hiking/biking trail to serve as part of the Trans Canada Trail will be considered along a corridor on the east side of SR 742 between Goat Creek trailhead in the north and Peninsula Day Use site in Peter Lougheed Provinicial Park. The trail will make use of suitable old roads or other disturbances where possible. If this trail is developed, parks staff will investigate the provision of suitable overnight camping opportunities. Parks staff will work with knowledgeable snowshoe users to sign one or two snowshoe loop trails near Burstall Pass trailhead to test the visitor response to such facilities. Existing old roads or natural openings will be used wherever possible and public safety will be maintained. Impacts on wildlife or other resources in the area will be minimized. Snowshoeing will also continue to occur on other trails on an informal basis, but will be discouraged on groomed ski trails.

Groomed and trackset cross country ski trails will continue to be provided in Peter Lougheed Provincial Park and at Mt. Shark in Spray Valley Provincial Park. Grooming of trails at the Sawmill loops and a portion of the Chester Lake trail will be done as resources permit. Maintenance or upgrading of these trails including clearing of trees and brush to improve snow retention and drainage work will be done by staff with assistance from volunteers. Use by qualified biathletes of the Rudi Setz Memorial Biathalon Range will continue and require a permit issued by parks staff.

Backcountry skiing will continue in many parts of these parks with users expected to be informed, equipped and experienced so that they can make sound decisions about their trip. Government staff will continue to monitor weather and avalanche conditions and provide this information to the Canadian Avalanche Association for its avalanche forecasts. They will also work with Alberta Transportation and the RCMP to provide suitable parking areas and avalanche control as necessary along SR 742. Staff will also continue to provide emergency backcountry assistance.

Staff will continue to work with trail users to address impacts or conflicts as they arise. They will also continue to work in partnership with the Friends of Kananaskis Country who will assist by publishing trail information, receiving donations for new trails or upgrades, organizing volunteer trail maintenance events or other kinds of trail support. Staff will work with users as well as map and guidebook producers to try and limit the amount of off trail use especially in sensitive areas. When temporary trail use restrictions are in place (e.g. bear closures), staff will suggest alternative trails.

6.3 Heritage Appreciation

Personal interpretation will continue at a high level during the summer season in Peter Lougheed Provincial Park. Expanding personal programs (into Lower Lake Campground for example), and upgrading the Visitor Information Center displays and park interpretive signs will occur as resources permit.

6.4 Heritage Tourism

If the closure of the former minimum-security camp (capacity approximately 40 persons) in Peter Lougheed Provincial Park becomes permanent, then the facility will be considered for possible hostel accommodation. Development of a connecting trail to the existing park trail system will be a condition of approval.

The existing Mt. Engadine Lodge will be allowed to expand by up to 20% of its current floor area with allowable uses to be consistent with its current lease. One other site in the Spray Valley Provincial Park will be identified by government staff for possible future development of one additional small scale lodge that will be consistent with the Kananaskis Country Recreation Policy 1999 and be accessible from SR 742.

The old horse corrals on the west side of Spray Lake near Canyon Dam will be removed and this site considered as an alternate overnight campsite for sled dog operators. The existing sled dog operators will continue to use specific trails and sites on the west side of Spray Reservoir and stage from the west end of Three Sisters dam and Driftwood day use site. In addition, it is proposed to continue to authorize their use of specific sites and trails at Mt. Shark trailhead. A variety of conditions will be included on permits to mitigate or eliminate conflicts or impacts. No additional permits for sled dog operations will be issued for these parks.

All commercial and special events within the parks will continue to require a permit that includes conditions to reduce conflicts and impacts. Group size will be limited to 50 persons in backcountry areas.

Peter Lougheed and Spray Valley Provincial Parks are popular locations for filming including commercials, documentaries, and feature films. The economic and tourism significance of this activity is recognized. In order to minimize conflicts and impacts on park lands and facilities, all proposed projects will continue to require a Letter of Authority issued by Parks and Protected Areas. Filming is not normally permitted on weekends or in backcountry areas of these parks.

Commercial helicopter use within both parks will occur under the terms of the Voluntary Helicopter Use Guidelines.

6.5 Infrastructure/staff housing

Current staff housing and related infrastructure will be maintained, upgraded or replaced as required consistent with building and environmental codes and Firesmart Guidelines. No additional staff housing is anticipated.

7.0 DISPOSITIONS

Existing dispositions issued under other legislation (e.g. *Public Lands Act*) will be renewed under the authority of the *Provincial Parks Act,* and brought in line with disposition and fees regulations, when the existing term expires or the disposition is renegotiated.

The only new dispositions that will be issued in these parks will be consistent with the *Provincial Parks Act* as well as the management intent, objectives and guidelines of this plan. All new dispositions will issued under the authority of the *Provincial Parks Act* - Disposition Regulations and subject to the Fees Regulation.

8.0 REGIONAL INTEGRATION

The province will ensure that management of Peter Lougheed and Spray Valley provincial parks is properly coordinated with that of surrounding lands. This includes adjacent cottage subdivision, Fortress Mountain ski hill, British Columbia and Banff National Park lands. Coordination will occur through direct communication between staff and stakeholders as well as through the Central Rockies Ecosystem Interagency Liaison Group. The adjacent Alberta protected area lands in Bow Valley Wildland Park, Evan Thomas Provincial Recreation Area and the Elbow Sheep Wildland

Park are managed under the terms of their respective management plans by the same parks staff responsible for Peter Lougheed and Spray Valley provincial parks.

9.0 IMPLEMENTATION OF PLAN

9.1 Roles

Parks and Protected Areas

The co-ordination of plan implementation and day-to-day management of these parks is the responsibility of the Parks and Protected Areas Division of Alberta Community Development including administration, planning, information/education, facility development, maintenance and enforcement. Parks and Protected Areas will establish effective working relationships with other government agencies, Kananaskis Improvement District Council, neighbouring jurisdictions, visitors, stakeholders and local residents in implementing this management plan.

Emergency search and rescue services will continue to be provided by trained staff working in conjunction with the RCMP.

Parks and Protected Areas will conduct periodic plan reviews or updates as the need arises.

Volunteers

Individuals or groups will be invited to assume a variety of volunteer responsibilities including stakeholder representation on planning advisory groups, protected area stewards or trail maintenance through the Friends of Kananaskis Country Trail Care Group. Management of volunteers will conform to the standards set out by the Department's Volunteer Program. Volunteer stewards will assist departmental staff in patrolling, inspecting and reporting on the conditions of the Protected Areas, as well as providing input to the ongoing management process. They will have no enforcement role and will only OBSERVE, RECORD, AND REPORT. In addition, volunteers will continue to support a variety of programs such as public safety, research, monitoring, education and other departmental roles. Parks and Protected Areas will continue to work with a variety of interest groups and encourage the development of active partnerships to care for protected areas or educate and inform visitors.

9.2 Research

Government research priorities will include wildlife use of corridors and habitat areas, human use patterns, effects of use, and visitor satisfaction. Other research proposals will be considered, provided such activities have no significant negative impact on the site, other site users, or wildlife. Off-road vehicle use for research purposes will be discouraged and only allowed when shown to be necessary. Research related to the management of the site and the species found here, such as mountain goats or carnivores, or for the acquisition of biophysical or archaeological information to assist resource management will be given priority. Other research proposals will be considered on a case-by-case basis. A permit for research activities must be obtained from Parks and Protected Areas and a copy of all research results must be provided to the department. New knowledge resulting from research will be used wherever possible to benefit management.

9.3 Signage

Parks and Protected Areas will work with Alberta Transportation where appropriate to install and maintain boundary, trailhead and other signage as required for Peter Lougheed and Spray Valley Provincial Parks.

LIST OF REFERENCES

Government of Alberta, *Provincial Parks Act*, Rev. 1983

Parks and Protected Areas, revised January 2001, Kananaskis Country Architectural Theme Guide.

Parks and Protected Areas, Kananaskis Improvement District Land Use Order, 2002

Alberta Forestry, "Kananaskis Country Subregional Integrated Resource Plan", 1986

Alberta Environment, "Kananaskis Country Recreation Policy", May 1999

Alberta Environment, "Natural Regions, Subregions and Natural History Themes of Alberta – A classification for protected areas management", Rev. Dec. 1994

Alberta Environmental Protection, Natural Resources Service, "Management Plan Format: Provincial Parks, Wildland Parks, Recreation Areas, Wayside and Access Sites, Wilderness Areas, Natural Areas", updated November 1996

Alberta Environmental Protection, Natural Resources Service, "Wind Valley Natural Area Bibliography and Species Lists", Feb. 1996

Alberta Environment, Natural Resources Service, "Bow Valley Provincial Park South – Literature Review", October 1997

Alberta Sustainable Resource Development, 2000 Firesmart Guidelines

Eastern Slopes Grizzly Bear Project. 1998 Grizzly Bear Population and Habitat Status in Kananaskis Country, Alberta: A Report to the Department of Environmental Protection, Natural Resources, Alberta. Prepared by the Eastern Slopes Grizzly Bear Project, University of Calgary, Calgary, Alberta.

APPENDICES

Appendix A

Alberta's Protected Area Zoning Framework (excerpts from "Management Plan Format: Provincial Parks, Wildland Parks, Recreation Areas, Wayside and Access Sites, Wilderness Areas, Natural Areas; November 1996; Alberta Environmental Protection)

Classification recognizes those individual sites within Alberta's overall network of recreation and preservation lands contribute in varying degrees to preservation, outdoor recreation, heritage appreciation, and tourism. Classification however, does not account for the variability of natural resources within a given site. All lands within a given site may not be of equal value from a preservation point of view, and all resources may not have equal capability from a regional perspective. Various components of our natural heritage require different management strategies if they are to be sustained over time.

Zoning spatially identifies areas according to their resource values and the types and levels of use and development that can be supported while fulfilling the objectives of the site as determined by its classification. Zoning is applied during management planning. Zoning takes into consideration the natural resources values and the stated objectives for preservation, outdoor recreation, heritage appreciation, and tourism. Zoning can also account for existing commitments that are to be honored as a condition of site establishment.

The zoning scheme used for Alberta's network of recreation and preservation land includes seven zones. Within the zoning framework sub-zones may be used where a greater sophistication of resource management is warranted. Each zone possesses distinct objectives and an identifiable role. The zones help to ensure a balance between resource protection and use.

The zones used in Peter Lougheed and Spray Valley Provincial Parks are as follows:

ZONES	INTENT
NATURAL ENVIRONMENT	- protects significant natural features and habitat while accommodating trail recreation and backcountry camping
FACILITY	- accommodates major facility developments (campgrounds, golf courses, hotels, ski hills, hostels, staff housing)
PRESERVATION	- provides highest degree of protection for natural features or habitat while accommodating designated trail access

* Above Zoning descriptions are intended to be illustrative only. Adjustments to these zones and provisions may occur if new legislation is passed.

APPENDIX B Preliminary assessment of Natural History Themes in Peter Lougheed and Spray Valley Provincial Parks

Level 1 themes	Level 2	Peter Lougheed/Spray
Valley/Ridge Floor/Stream		
	Outwash fluvial glaciofluvial	✓
	Springs/seepage	✓
	Spruce forest	✓
	Lodgepole	✓
	Aspen forest	✓
	Balsam forest	
	Shrublands	✓
	Grassland	✓
	River	✓
Ridge/Valley Wall		
	Douglas fir forest	✓
	Spruce forest	✓
	Lodgepole	✓
	Aspen	✓
	Grassland	
	Moraine	✓
	Bedrock	✓
	Colluvium	✓
Wetland Mineral		
	Spruce forest	✓
	Deciduous	✓
	Shrubland	✓
	Marsh	✓
		SUBALPINE
Valley Ridge/Floor/Stream		
	Outwash fluvial	✓
	Moraine	
	Spruce forest	✓
	Old growth	✓
	Lodgepole forest	✓
	Grasslands	✓
Ridge/Valley Wall		
	Front ranges	
	Non-calcareous Bedrock	✓
	Calcareous	✓
	Colluvial	✓
	Morainal	
	Avalanche	✓
	Timberline/Krumholz	✓
	Lower subalpine	✓
	Upper subalpine	✓

Level 1 themes	Level 2	Peter Lougheed/Spray
Ridge/Valley Wall CONT'		
	Spruce-fir	✓
	Old growth	✓
	Lodgepole	✓
	Whitebark pine	✓
	Subalpine larch	✓
	Deciduous	✓
	Grass/meadow	✓
Wetland Mineral		
	Coniferous	
	Lake	
Special		
	Mcconnell Thrust	✓
	ALPINE	SUBREGION
Valley Ridge/ Floor stream		
	Colluvial	✓
	Moderate snowbed communities	✓
	Deep snowbed	✓
	Stream	✓
Ridge/Valley Wall		
	Bedrock Noncalcareous	✓
	Bedrock calcareous	✓
	Alpine glaciation	
	Morainal	
	Colluvial	✓
	Shallow snowbed communities	✓
	Moderate snowbed communities	✓
	Deep snowbed communities	✓
	Moist meadows	
	Snowfield	✓
	Wet meadow	
	Lake	

APPENDIX C – Forest Fire Background

Fire History - Wildfires have long been part of the park ecosystem. Prior to European settlement, fire was commonly used by aboriginal peoples for a variety of purposes and over time, had a considerable impact in the development of a wide variety of habitat. Generally speaking, lower intensity fires occurred with regular frequency in the valley bottoms due to spring burning. As the snows receded slower at higher elevations, these areas did not burn as frequently. There was a longer return interval between fires at higher elevations particularly on north facing slopes. It takes a longer time period with more significant fire indices for these areas to dry sufficiently to burn. As such, when these conditions are present, and ignition occurs, fire intensity is usually very significant. Large fires over 1,000 acres of medium to high intensity have occurred on an average of every 30 years since 1712. Smaller fires have occurred on an average of every 14 years. Records prior to 1712 are spotty, as more recent fires have destroyed evidence of earlier fires. However, no large fires have occurred since 1936.

The overall hazard at present is low or moderate in much of the Lower Lake areas in terms of total fuel loading and expected rate of fire spread. However, the crown fire potential is high in the dense lodgepole pine stands and medium density stands with spruce/alpine fir understory. Large amounts of available fuel occur in scattered areas throughout the facility area. NOTE: Large continuous coniferous stands do exist and have the potential to create severe, high intensity fires given the wrong conditions.

Logging occurred at various times prior to the establishment of the parks. A sawmill reportedly operated on the Upper Lake in the late 1880's. Some logging occurred until the early 1940's when damming of the lake prevented use of the river for transporting logs. Logging began in the Smith0-Dorrien Valley in 1952 and continued until 1978. Over 1495 acres were cut including 35 cut blocks, many partial cuts and salvage logging of the 1973 burn. This required 50 km of access roads, 150 km of skid trails and many landings. A camp was established at Mud Lake and 2 sawmills were constructed.

The Smith-Dorrien Valley and the Kananaskis Valley have extensive tracts of even-age lodgepole pine as a result of fires in 1936, 1920, 1904, 1890, and 1859. Moderate dead and down woody fuel loadings and occasional spruce/fir understory (ladder fuel) provide the potential for crown fire development. In the logged areas of the Smith-Dorrien Valley, slash accumulation is extremely high. The park has a catastrophic fire regime where wildfires are usually conflagrations, killing overstory and understory of the forest. The crowning potential increases dramatically with the steep topography in the park and the high winds prevalent in this region. Burn direction of major fires seems to be related to the prevailing wind patterns. Reports from large fires elsewhere indicate that spotting can occur up to five kilometers ahead of a fire.

While some fuel inventories have been done in the past by the Alberta Forest Service, up to date inventories of all areas in both parks have to be conducted.

In 1983, the Alberta Forest Service reduced fuels at the entrance to Elkwood Campground and a fuel reduction program was implemented along part of Highway 40 in 1985/86 to improve the visual quality of the roads, to reduce fire hazard and to reduce the likelihood of secondary beetle infestations. This program was continued in 1986/87. Alberta Transportation also removed some dog haired and dense stands of lodgepole pine along Kananaskis Lakes Trail. Further fuel reduction occurred along the Smith-Dorrien Trail in 1988. In the fall of 1990, fuel hazard reduction occurred in the Lodgepole maintenance compound area. This project is ongoing.
A review of the status of fuel modification in both parks is required along with an up to date inventory.

Most of the facilities in Kananaskis have been designed and built using wood siding and cedar shakes to create a more natural and aesthetically pleasing appearance. Unfortunately, any buildings constructed out of these materials are at significant risk for loss by fire especially

considering they are located in the forest environment. Cedar shakes easily ignite especially in high fire danger periods. These buildings are at extreme risk not only from direct flame impingement related to crowning or surface fires but also from long range spotting. Research following recent losses in Alberta have indicated that ignitable embers falling from crown fires are greater than 150,000 per hectare.

Large-scale hazard reduction can be accomplished by timber harvesting, prescribed burning, or a combination of both. Due to fuel loading, during periods of high fire danger, there is an increasing risk of the loss of large areas to fire with high intensity and severe fire behavior. In addition, these stands are highly susceptible to both insect and disease damage due to age. Some consideration must be made, to identify key areas to create breaks to limit spread and loss. Although areas of high fire hazard have been identified throughout the Park, fuel-loading reduction on a large scale is not necessary at the moment in the non-facility area, with the exception of logged sites in the Smith-Dorrien Valley. These sites could serve as test sites for pilot studies on a larger scale. In this study slash could be removed mechanically and thinning could be conducted at the same time to modify standing fuels. Prescribed fire can be used in lower danger periods, especially in early spring as the snow recedes, to mimic aboriginal burning. Costs would be significantly less and would result in reduced fuel loading as well as a return to fire based ecosystems.